

34. The xylanase of claim 31, wherein the thermophilic fungus is a *Plectomycetes*.
35. The xylanase of claim 34, wherein the thermophilic fungus is an *Erotiales*.
36. The xylanase of claim 30, which is a Family 11 glycosyl hydrolase.
37. An animal feed additive comprising the xylanase of claim 30.
38. A pre-mix for animal feed comprising the xylanase of claim 30.
39. A process for preparing an animal feed comprising mixing feed components with the animal feed additive of claim 37.
40. A process for preparing an animal feed comprising mixing feed components with the pre-mix of claim 38.
41. An isolated xylanase encoded by a DNA sequence that hybridizes with nucleotides 31-705 of SEQ ID NO:1 under hybridization conditions comprising hybridization in 5XSSC at 45°C and washing in 2XSSC, 0.2% SDS at 70°C.
42. The xylanase of claim 41, which is encoded by a DNA sequence that hybridizes with nucleotides 31-705 of SEQ ID NO:1 under hybridization conditions comprising hybridization in 5XSSC at 45°C and washing in 2XSSC, 0.2% SDS at 75°C.
43. The xylanase of claim 42, which is encoded by a DNA sequence that hybridizes with nucleotides 31-705 of SEQ ID NO:1 under hybridization conditions comprising hybridization in 5XSSC at 45°C and washing in 2XSSC, 0.2% SDS at 80°C.
44. The xylanase of claim 41, which is derived from a thermophilic fungus.

45. The xylanase of claim 44, wherein the thermophilic fungus is selected from the group consisting of *Byssoschlamus*, *Chaetomium*, *Humicola*, *Malbranchea*, *Mucor*, *Myceliophthora*, *Paecilomyces*, *Talaromyces*, *Thermoascus*, *Thermomyces* and *Thielavia*.

46. The xylanase of claim 44, wherein the thermophilic fungus is a *Pyrenomyces*.

47. The xylanase of claim 44, wherein the thermophilic fungus is a *Plectomycetes*.

48. The xylanase of claim 47, wherein the thermophilic fungus is an *Erotiales*.

49. The xylanase of claim 41, which is a Family 11 glycosyl hydrolase.

50. An animal feed additive comprising the xylanase of claim 41.

51. A pre-mix for animal feed comprising the xylanase of claim 41.

52. A process for preparing an animal feed comprising mixing feed components with the animal feed additive of claim 50.

53. A process for preparing an animal feed comprising mixing feed components with the pre-mix of claim 51.

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